



A. PIP Heavy chain variable region

gatgtgcagcttcaggagtcaggacctgacctggtgaaaccttctcagtcagttcactcacctgcactgtcactggctactccatc
accagtgggtatggctggcactggatccggcagttccaggaaataaactggatggatgggctgcatacactacagtggtagc
actaactacaacccatctctcaaaagtcgaatctctgtcactcgagacacatccaagaaccagttctctcagttgaattctgtga
ctactgaggacacagcccatattactgtgcaagaagggaatatggttaactatgctatggactactggggtcaaggaacctcagt
caccgtctctcag (SEQ ID NO:2)

DVQLQESGPDLVKPSQSVSLTCTVTGYISITSGYGWHWIRQFPGNKLEWMGCIHY
SGSTNYNPSLKSRI SVTRDTSKNQFFLQLNSVTTEDTATYYCARREYGNYAMDY
WGQGTS VTVSS (SEQ ID NO:3)

B. PIP Heavy chain native signal sequence

atgagagtgtgattctttgtgcctgttcacagccttctcgtgtatcctgtct (SEQ ID NO:4)

MRVLILLCLFTAFPGILS (SEQ ID NO:5)

C. PIP Light chain variable region

gacattgtgatgacacagctccatcctcctgagtggtgcagcaggagagaaggctactatgagctgcaagtccagtcagagtc
tgtaaacagtggaatcaaaagaactacttgccctggtaccagcagaaaccaggcagcctcctaaactgttgatctacgggg
catccactaggggaatctggggtccctgatcgcttcacaggcagtgatctggaaccgattcactcttaccatcagcagtggtgcag
gctgaagacctggcagtttattactgtcagaatgatcatagttatccattcacgttcgggtcggggacaaagttggaattaaaac
(SEQ ID NO:6)

DVQLQESGPDLVKPSQSVSLTCTVTGYISITSGYGWHWIRQFPGNKLEWMGCIHY
SGSTNYNPSLKSRI SVTRDTSKNQFFLQLNSVTTEDTATYYCARREYGNYAMDY
WGQGTS VTVSS (SEQ ID NO:7)

D. PIP Light chain native signal sequence

atggaatcacagactcaggtcctcatctcctgtgtctgggtatctggtacctgtggg (SEQ ID NO:8)

MESQTQVLISLLFWVSGTCG (SEQ ID NO:9)

FIGURE 4